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ABSTRACT

Four styles of professional-organizational functioning were identified through a factor analysis of questionnaire data. The questionnaire was based on a conceptual framework derived from the literature administered to a cross section of educational practitioners. The four styles were found to be differently related to four constructs and several biographical demographics previously shown as related to the manner in which individuals respond to change. This study implies that individuals attempting to influence the acceptance of change by educational practitioners should consider the mediating influence of the practitioner's behavior as a professional and as an employee of an organization. An extensive list of references is provided. (Author)

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THE RELATIONSHIP OF PROFESSIONAL-ORGANIZATIONAL STYLES WITH SELECTED VARIABLES ASSOCIATED WITH THE PROCESS OF EDUCATIONAL CHANGE

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THE RELATIONSHIP OF PROFESSIONAL-ORGANIZATIONAL STYLES WITH SELECTED VARIABLES ASSOCIATED WITH THE PROCESS OF EDUCATIONAL CHANGE[a]

Introduction

This paper presents the findings of a study to empirically investigate a construct designed to synthesize individual differences as they relate to selected variables associated with change. This construct views the educational practitioner as an individual, a professional, and an employee of an organization. Before presenting the details of the study, the authors feel it is helpful to understand the general context of the study.

Context of the Study

Understanding the process of change is one of the most perplexing problems in education today. There seems to be a surplus of innovative educational ideas, but these ideas seem to fall short at the point of implementation. During the past fifteen years or so, a considerable amount of attention has been placed on trying to determine how educational change does and should occur. Volumes such as Rogers (1962), Miles (1964), Havelock (1969), Rogers and Shoemaker (1971), Corwin (1972) and Gross et al (1973) are just a few which reflect such an interest. These references site numerous disciplines such as psychology, sociology, education, marketing and administrative science as

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[a] The data reported in this study is a synthesis of work reported in Kester and Hull, 1973; and Kester, 1973.

having elements which are applicable in conducting discussions, constructing models and building theories concerning the explanation of the process of educational change.

With all of the discussion concerning educational change there is still a large knowledge gap between the models and theories and the amount of empirical evidence to validate these conceptions. Furthermore, many of the studies which are used to support concepts in the field of education have not been conducted in educational settings. Although many of the underlying constructs of these other studies may be generally valid, the findings may differ when the studies are conducted in educational settings. One of the primary reasons for the limited success in the implementation of educational ideas is the limited empirical knowledge base which exists.

The Diffusion Strategies Program at The Center for Vocational and Technical Education (CVTE) has as one of its primary concerns the empirical documentation of concepts related to the process of change in educational settings. The study reported in this paper is part of this larger programmatic effort to empirically documented change concepts for use by persons interested in understanding and/or implementing change in education. A brief understanding of the overall guiding conceptual framework will assist the reader in understanding this study.

Guiding Conceptual Framework

Basic Change Framework

The process of educational change is conceived as consisting of three basic elements and various interactions between those elements. The elements are (1) an advocate (the individual

group or organization suggesting a change), (2) a consumer (the individual, group or organization recipient of the advocate's attention), (3) a suggested change or innovation (an idea, practice or product perceived as new by the consumer), and (4) time (Hull et al., 1973). The advocate and the consumer are seen in a dynamic relationship. It is conceivable that during the interaction between them the consumer could become an advocate and vice versa. Change under this framework can be considered as any measurable consequence of the interaction between these elements (McCaslin and Walton 1972). Figure 1 illustrates the elements and possible interactions which may occur in this model.

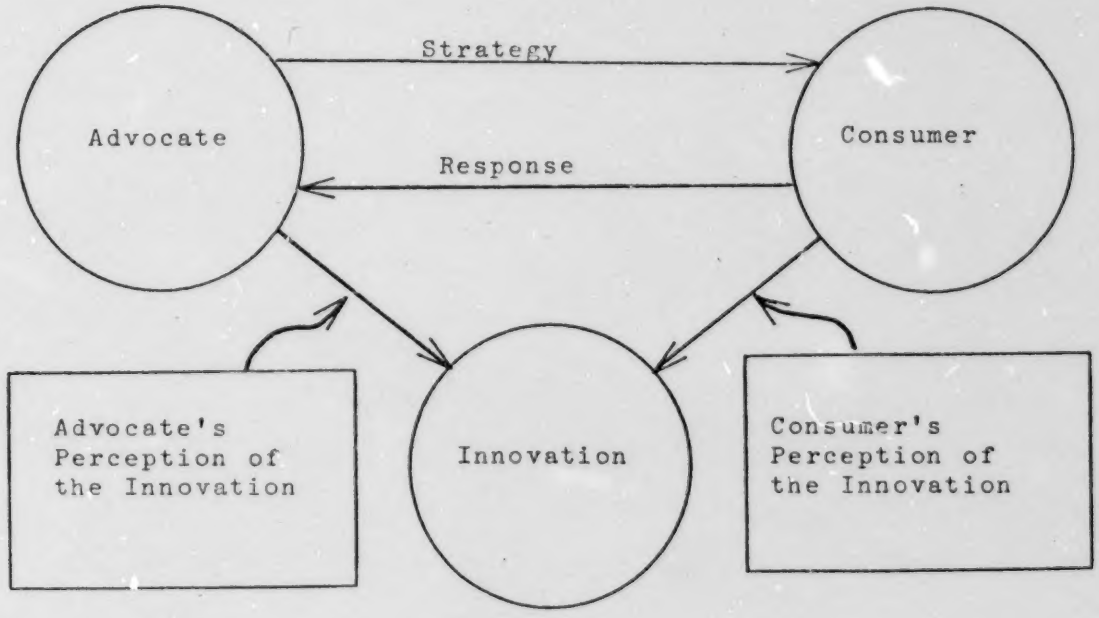

Figure 1

Basic Change Framework

This study focuses on the individual consumer as a member (employee) of an organization. The investigation points out that educational practitioners develop patterns of behavior and that these patterns are related to such areas as how they view innovations, themselves as professionals, change, and the general support for change in their environment. Before explaining the study in more detail, it is important to understand the critical role of the individual and how the individual is usually conceptualized in educational settings related to change.

Importance of Individuals and Individual Patterns

Bhola (1967) indicates that all social change is ultimately an individual choice. However, individuals are influenced by numerous variables. Much of the knowledge concerning the influence of individual differences has been from research on the acceptance of change and conceptualizations in areas such as psychology and rural sociology (Rogers and Shoemaker, 1972). Although some social interaction or external forces are taken into account in these areas of study, many times the focus is on the individual alone. Specific demographics, psychological states (e.g., anxiety, dogmatism) or economic conditions (e.g., socio-economic status, salary) are usually independently considered. Very few multivariate studies have been used to conceptualize individual differences in terms of behavior patterns and relate them to variables associated with change.

Conceptualizing individual differences is one of the main problems in this area. In psychology there has been an increase in the use of multivariable models to classify individual

differences (Tucker and Messick, 1963). In this report it is possible to view educational practitioners in a multivariable sense as part individual, part professional educator, and part employee of an organization. It is conceivable that the expectations and role responsibilities for each of these aspects of the educational practitioner may not be in harmony. If this is so, it can be assumed that each educational practitioner will develop some pattern of behavior which they perceive to be consistent with values they hold concerning these parts of their life. Although these patterns may be somewhat unique, some generalizable set may exist. If so, the generalizable set would provide a compromise between considering individuals as unique and autonomous, or considering them all alike according to some isolated set of variables. Such generalizable patterns would also provide a basis of synthesizing organizational, social, individual, and other influences which mediate the acceptance of change in educational settings. Such a synthesis could hopefully reduce the complexity of variables that are critical to explaining or predicting educational change. Several writers have suggested that such patterns may relate to how the educational practitioner responds to and/or accepts change (Rogers, 1972; Rosenau et al, 1972; Sieber, 1972; Havelock, 1971; Brickell, 1971). However, there has been very little empirical documentation of such concepts. It would seem important then that if these conceptions are valid they can and should be empirically documented.

Statement of the Problem and Purpose of the Study

One aspect of the problem surrounding the process of the acceptance and use of educational innovations is a lack of empirically documented knowledge concerning the factors which influence an individual's response to change attempts. Based on the previous discussion of the importance of individual differences presumably, such insights need to be developed with respect to such areas as consumer's (1) professional behavior, (2) organizational behavior as an employee, (3) motivational style, (4) decision-making model, and (5) orientation to change situations. In view of this present lack of empirically verified information, the purpose of this study may be stated as follows:

> To identify empirically and to validate patterns of behavior of educational practitioners with respect to their roles as professionals and as employees of organizations and to determine the relationship of the identified patterns with four other constructs and biographical data associated with the process of change.

Conceptual Framework of Professional-Organizational Functioning

Definition

Literature concerning the general area of social functioning, professional and organizational behavior was used to form the construct of Professional-Organizational functioning (POF). An individual's social functioning is defined as a synthesis of cognitions, affections, and behaviors which are inherent or learned actions and responses to his environment. Professional-organizational functioning is a sub-set of social

functioning dealing with those cognitions, affections, and behaviors in the domains of the individual's responses and actions as a professional within the environment of an organization.

Professional-organizational functioning (POF) within the context of this study consists of five categories of behavior:

1. Professional orientation - behaviors concerning how practitioners align themselves with their professional codes of ethic or participation in professional organizations;
2. Employee behavior - behaviors reflecting how practitioners align themselves with rules, regulations or procedures of their employing organizations;
3. Decision making model - behaviors relating to whether, when making a decision, these individuals rely on some type of concrete evidence or make their decisions on the basis of intuition or the judgement of others;
4. Motivation - behaviors associated with whether these individuals consider themselves "hard" workers or "easy-going." Also, whether they are motivated intrinsically or by external reward; and
5. Orientation to change - behavior revealing whether practitioners approach situations and/or things which are new to them cautiously or not.

Background Literature

Eight discussions from the literature were used in the process of deriving these five categories of behavior. Schein (1965) discusses four views of man: (1) rational-economic man, (2) social man, (3) self-actualizing man, and (4) complex man. Schein's discussion points out the complexity and variability of individuals but suggests that they do establish some regularity of behavior.

Harvey et al. (1961) supports a structure of four systems to explain the basic patterns of social functioning in individuals. The four systems differ primarily on the ability of the individuals within a given system to function without the need

for external authority. Harvey's concept of concrete to abstract functioning is reflected throughout the five categories of the POF framework used in this study.

Barnes' (1967) schema is one of the discussions which was specifically used in a context related to the process of change within organizations. Barnes describes four images of organizational personnel as they relate to change: (1) rational advocates (RA), (2) radicals (R), (3) rational resistors (RR), and (4) traditionalists (T). Barnes' conceptions provided content to the decision making model and orientation to change categories of the POF framework.

The schema by Rogers and Shoemaker (1971), which first appeared in Rogers (1962), is probably the most familiar conceptualization of individual differences associated with response to change. This schema consists of five types of adopters (consumers): (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards. These types differ mainly on the time it takes them to adopt new practices. These conceptions added significant definition to the orientation to change category of the POF framework.

Jenks (1970) has developed a Q-sort device which can be used to type functioning patterns within the context of a social structure. Jenks' study resulted in 16 dimensions of social functioning in social structures.

The Jenks' study supports the POF study concerning the premise that individuals establish patterns of behavior within social structures.

Sieber (1972) describes four potential images of practitioners which are comparable to Schein's and Harvey's four views of Man and complementary to Rogers' and Shoemaker's views: (1) the rational man image, (2) the cooperative image, (3) the powerless functioning image, and (4) the combined image. Although Sieber suggests that the combined image is more empirically valid, his discussion provided content for other possible patterns of behavior.

Guba (1967) discusses seven possible views of the nature of educational practitioners. The labels he uses are: (1) rational entity, (2) untrained entity, (3) psychological entity, (4) economic entity, (5) political entity, (6) bureaucratic entity, and (7) professional entity. Guba's discussion assisted in expanding the variety of possible patterns of behavior which may exist while at the same time maintaining a consistancy with the previous discussions.

Brickell (1971) provides the most detailed discussion of potential images of practitioners. His schema consists of ten descriptive patterns of behavior related to how educational practitioners conduct themselves in organizational settings: Image 1 - a creature of regulation; Image 2 - achievement oriented; Image 3 - professionally oriented; Image 4 - interested in the uses of power; Image 5 - oriented to the technical aspects

of his position; Image 6 - relatively powerless; Image 7 - concerned about the lack of funds; Image 8 - advanced in his skills; Image 9 - enjoys the process of bargaining; and Image 10 - oriented toward rationalistic thinking and procedures. The content of Brickell's images was the primary substance of the initial generation of items for the questionnaire used in the study. This process is explained in the methodology section of this paper.

These discussions provide a summary of the supporting evidence concerning the nature of the construct of professional-organizational functioning. The discussions also lent substantive content to the possible patterns and elements of those patterns that may empirically exist.

Design and Methodology

Introduction

The first objective of the study was to determine whether patterns of professional-organizational functioning were identifiable. A factor analytic methodology was selected as most appropriate for this part of the design. The second objective of the study was to determine whether the identified patterns were related to variables which have previously been associated with the process of change. To accomplish this objective a series of correlations and regressions with a selected set of identified variables was used.

Validation Variable Set

The selected set of variables used to validate the factors identified in this study consisted of three pre-developed scales, a set of innovation characteristic factors, and some biographical demographics.

A scale developed by Hall (1969) was used to measure the construct of Professionalism (P). Hall's scale was empirically reanalyzed by Snizek (1972) and this information was used to reduce the original 50 item scale to a 25 item scale in this study. The Professionalism scale consists of five subscales of five items each. The labels of these subscales are: (1) Use of the Professional Organization as a Major Reference, (2) Belief in Service to the Public, (3) Belief in Self-Regulation, (4) Sense of Calling to the Field, and (5) Feeling of Autonomy.

The construct of Perceived Situational Support for Change (PSSC) was measured through the use of a scale developed by Kievit and Douma (n.d.). Five areas of situational support were used to define the concept: (1) administrative support, (2) attitudes of colleagues, (3) financial support, (4) community support, and (5) opportunities for reinforcement. Ten of the 26 items which were reported as having the highest discriminating power were used in this study.

Change Orientation was assessed through the use of a scale developed by Russell (1972). The scale was derived through factor analytic techniques which resulted in 21 items. Russell found that the scale was able to significantly differentiate known groups of "early adopters" from known groups of "laggards."

The innovation characteristic factors were the result of an effort conducted simultaneously with the POF study. Using the same basic research design, methodology and sample as the POF study six factors of innovation characteristics were identified (Kester and Hull, 1973). The factors viewed the innovation as to:

1. Its student-user concern orientation - whether the content and/or purpose of the change is relevant and appropriate for the needs of the students and the teachers or administrators;

2. The additional resource requirements - people, time and money beyond that which is presently available or able to be reallocated;

3. The potential for organized resistance - the degree to which the innovation contains values which may be contrary to a significant group of consumers;

4. Its consumer report rating - whether the innovation measures up to a number of criteria such as, being tested, having a guarantee of success, information concerning overall cost, and whether it is better than other similar innovations;

5. Its credibility - whether the developers and the persons advocating the change are credible in the eyes of the consumer; and

6. The organizational implementation concerns - the degree to which the change will require the reallocation of time, personnel, and money, or involve changes in policy or class schedule.

The 16 biographical demographics which were used in the study are listed on the last page of the questionnaire. These demographics were selected on the basis of references in the literature associating them with the process of change.

Item Generation Process

Using the categories of behavior as outlined in the conceptual framework of the POF construct an initial set of 100 items were generated. Brickell's ten images were used as the primary content. Paraphrased statements were used from the descriptions of potential patterns of behavior. These 100 items were then reorganized into the five categories of the construct. Using the five category list and the ten pattern cross check the 100 item list was reduced to 50 items.

Sample Selection

A sample was selected which would reflect a diversity of educational situations while at the same time be within the bounds of some average demographic considerations. The population was stratified into five sub-populations.

1. State-level policy-makers.
2. State-level administrators of vocational education (SDVTE'S).
3. State-level vocational education teacher educators.
4. Local school administrators in urban, suburban and rural settings.
5. Secondary teachers (i.e., grades 7-12) in local districts (urban, suburban and rural).

The data collection sites were selected on the basis of data gathered on urban centers of the United States. Urban sites were selected as the prime initiator of the sample due to the concentration of students and educational practitioners at these centers. Two urban sites were selected. The selection of the urban sites dictated the state board, state advisory council, and SDVTE samples. The teacher educators were selected from institutions in the states which had responsibility for training vocational teachers.

Two suburban sites which were adjacent to each of the urban sites were selected. Three rural sites on each of the states were selected on the basis of being at least 25 miles from a city of 50,000 population or more and having a population of 5,000 inhabitants or less.

Questionnaire Administration and Response

The questionnaire administration varied slightly depending on the sub-population.

Overall the response was very substantial (81% or 243 out of 300).

Analysis Procedures

Factor analytic procedures were used to assess the underlying structure of the data. Two variations of the principal component factor analytic model were used: (1) a principal component analysis with the input matrix being the Pearson prod-

moment correlations of items across all subjects; and (2) a principal component analysis with the sum of the squares and the cross products of the raw scores (item responses) as the input matrix, which is similar to a design developed by Tucker and Messick (1963).

Correlation and Regression Analysis

Correlation coefficients (r), standardized regression coefficients (b), and multiple correlations (R) were used in the validation of the POF factors. As mentioned in the design section each of the identified factors were related to the four constructs, plus the innovation characteristics factors, as well as the 16 biographical demographics.

Due to the exploratory nature of the study and the desire not to build a set of scales or subscales as such, factor scores of individuals on the POF factors were used in the correlational analyses. This allowed all of the observed variables (i.e., items) impact on each of the factors. The formula used was one discussed by Kaiser (1962, pp. 83-87). In a sense the POF factors were treated as independent variables and the others were then treated as dependent or criterion variables.

Reliability Analysis

Based on discussions by Cronbach (1951) and Bohrnstedt (1970) the coefficient alpha (α) statistic was selected for use in this study.

Findings

Introduction

Four varimax rotated factors of POF were extracted from the data as the "most meaningful" representative set. These factors accounted for 48 percent of the common variance. In this section each factor will be interpreted by presenting a table of the "marker items"[a] and a narrative description of the content of those items.

The terminology used in the interpretation of the factors is not necessarily obvious. The term factor refers to the set of items and their respective loadings on one of the four sets. The term image is used to discuss the synthesis of the content of the "marker items" on a given factor. The third person terms such as practitioner, person and individual are interchangeable and refer to the hypothetical respondent type which is described by the image and factor. It is not assumed that any given individual is of one single type. However, it is assumed that most individuals are associated with one factor more than the others. The interpretations which follow are therefore simply descriptive analyses of hypothetical types of individuals via the syn-

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[a]Marker items are those items in rank order which loaded the highest on a given factor. It should be noted that the factor analytic technique used resulted in factor loadings not typical of other techniques.

thesis of the content of marker items on each factor.

After an initial brief descriptive interpretation is given based solely on the content of the marker items a discussion is presented in terms of the relationship of each factor with the validation variable set. (Appendix A gives the correlations of the POF factors with the Professionalism scale, the Perceived Situational Support for Change scale, and the Change Orientation scale. Appendix B shows the correlations of the POF factors with the Innovation Characteristics factors. Appendix C displays the correlations of the POF factors with the concurrent situations. Appendix D presents the correlations of the POF factors with the biographical demographics.) Finally, in this interpretative section a brief paragraph is presented which proposes some implications for educational change.

Image #1 The Dynamic Professional Bureaucrat (DPB)

Table 1 presents the marker items of the first image. The content of this factor reflects the image of an educational practitioner who considers himself to be a perfect fit between the demands of his profession and his responsibility to his employing organization. He enjoys leadership, works hard, adheres to organizational regulations, and believes you must prepare yourself extensively for your tasks.

The DPB was positively related to all three constructs with the exception of the "sense of calling" element of Professionalism. The innovation characteristics of Student-User Concern, Organized Resistance Potential, and Consumer Report

Rating were found to be associated with the DPB. Directionally the relationship was from the innovation characteristic to the image rather than vice versa. In addition, the DPB was found to have a negative relationship to the teacher role, and a positive relationship to mathematics and science as a major area studies, and having a high educational level. These are not strong indicators but seem to be logically consistent with the more structured high achievement oriented nature of this practitioner.

The DPB and Implications for Educational Change

This image suggests that the Dynamic Professional Bureaucrat is, in general, amenable to change. However the approach and the change would have to be perceived as consistent with organizational procedures and professional ethics. The data support this position by showing that persons who are concerned with such innovative characteristics as the orientation to student concerns, the potential for organized resistance, and the rating by other consumers tend to be DPB's. It should also be pointed out that this image being the first factor may also reflect a certain norm which is considered as a desirable image for the professional educator within an organizational setting. This does not decrease the significance of the factor but only places caution on the generalizability of the interpretation with reference to any implied behaviors.

TABLE 1

RANK ORDERED ITEMS OF FACTORIAL IMAGE #1:

THE DYNAMIC PROFESSIONAL BUREAUCRAT

Items	Factor Ranked Loadings	Item Content
9	18.17	I enjoy working in situations which put me in a position of leadership and responsibility.
8	18.01	Extensive preparation is the key to success in the accomplishment of an important task.
45	17.15	I keep abreast of current developments in my professional field.
10	17.14	I am usually seen as a hard worker.
5	16.52	Professional tools are necessary to the accomplishment of my task.
49	16.11	I often find myself working on necessary tasks related to my role after normal working hours.
27	-15.56	The only kind of change I will accept is that which has been tested and proven by others to be better.
18	-14.87	To receive money for something I do well is often more important to me than to receive approval from my peers.
12	14.77	I enjoy creating distinctively different techniques or ways of doing things.
6	14.55	I work well in a competitive atmosphere.
22	-14.52	I have little faith in policies which I have not been instrumental in forming.
7	13.57	I use most of the mechanical and electronic aides related to my professional task that are available to me.
21	-13.57	The problem with trying new practices is that you are expected to do the whole thing by yourself.

Image #2 The Adapter Creator (AC)

Table 2 presents the marker items for the AC image. The image which emerges from the content of the items on this factor is one of a very independent, creative person, one who is not profoundly concerned with either professional attitudes or bureaucratic procedures. In total, this factor reflects the image of a practitioner whose basic criteria for functioning are highly pragmatic.

The AC was, in general, negatively related to Professionalism except for the element of "autonomy". Also, the AC was negatively related to the PSSC and positively related to an orientation to change. In addition, the AC was found to be positively related to the innovation characteristic of Student-User Concern and negatively to Additional Resource Requirements, Consumer Report Rating and Operational Implementation Concerns. The demographic categories to which the AC was positively related were the role of teacher educator, urban school situation, being divorced, student of humanities, number of job changes, and general travel. The AC was also negatively related to a rural school situation, being married, and raised in a rural setting. Most of these correlations confirm the independent, cosmopolitan and somewhat existential personality of this image.

The AC and Implications for Educational Change

Since this image is permeated by very independent attitudes it would seem to follow that such individuals tend not to respond to change advocated only through organizational or professional

TABLE 2

RANK ORDERED ITEMS OF FACTORIAL IMAGE #2:

THE ADAPTER-CREATOR

Item	Factor Ranked Loadings	Item Content
4	11.00	I would rather develop my own materials, given the time, than to use some pre-developed methods.
1	10.91	When trying something new, I will usually rely on my own judgments as to how it should work or be used rather than relying on the general instructions.
42	7.53	I try to bend the rules of the organization in which I am employed so as to match the situation.
3	6.65	I often try something new even if there is a good chance that it will not work.
31	- 6.60	When a decision has to be made, I find it most efficient to go through the standard channels or procedures.
17	- 6.23	Administrators are better qualified than non-administrative personnel to evaluate work performance.
46	- 6.18	I adhere closely to the policies and rules of the organization in which I am employed.
2	5.25	I very seldom use a new idea or product without altering it to meet my needs.
12	5.17	I enjoy creating distinctively different techniques or ways of doing things.
14	- 5.02	I find that it is best to pool my judgments with my superiors rather than making decisions on my own.

channels. The change must be perceived as highly relevant to their own personal-professional concerns. Therefore change presented in terms of opportunities for self-actualization would be of more interest to the AC. Things such as additional resource requirements, guarantees and potential implementation problems are not of great importance to the AC when making a decision to accept an innovation. Once a change is accepted by an AC, implementation is undoubtedly direct, organizational rules or professional ethics not withstanding except a concern for self and students.

Image #3 The Impoverished Practitioner (IP)

Table 3 presents the marker items for the AC. This image is that of an individual who has a sense of being powerless and does not feel it to be worth the effort to push for any type of change. This practitioner avoids pressure, works better in regulated conditions, relies on others when making judgments and expects compensation for work beyond the call of duty. In general, this individual attempts to maintain the status quo. He lacks the energy and resources to effect any change.

The IP was mixed in its relationship to Professionalism. There was a positive relationship to the "belief in self-regulation" and the "sense of calling" aspects of Professionalism, but a negative relationship to the "feeling of autonomy." This latter relationship is very consistent with the powerless image of the IP. The null relationships to the Perceived Situational

Support for Change and the Change Orientation are also consistent with the status quo position of the IP. The only innovation characteristics which were found to be somewhat associated with the IP were the Organized Resistance Potential and the Consumer Report Rating. Persons who rated these as important considerations tended to be IP's. Again the concern for not rocking the boat and being absolutely sure before attempting any move parallels the previous interpretations of this image.

The demographics which were found to be positively related to the IP were age and total years experience in the profession. This may suggest the IP functioning style is a conditioned style. The IP was also found to be negatively related to the teacher role which may further indicate that a form of the "Peter Principle" (Peter, 1969) is operating to condition some educational practitioners into powerless functioning styles and then move them up the ladder. Or as practitioners are moved up the ladder, some start to realize their incapacity and begin to maintain their present status for fear of losing face and position.

The IP and Implications for Educational Change

The IP once identified, must be handled very cautiously if the desire is to cause a change in behavior. The best way to cause the IP to change would probably be through some type of monetary reinforcement strategy. Even so, such an individual would resist <u>any</u> situation which moved too fast or was likely to put pressure on him in some way. Although the IP is comfortable in the organizational setting, it cannot be assumed that admini-

TABLE 3

RANK ORDERED ITEMS OF FACTORIAL IMAGE #3:

THE IMPOVERISHED PRACTITIONER

Item	Factor Ranked Loadings	Item Content
15	9.48	The main barrier to change is not a lack of good, new ideas, but gaining funds to support those ideas.
35	9.30	My approach to innovations is most often to play it slow and sure.
32	8.60	I just try to do a good job and avoid all the pressures around me.
24	6.38	Statistical evidence may be important, but it is not practical for the decisions I have to make each day.
26	6.16	Though I seek for information, I often rely on my own instincts and judgments rather than insisting on hard evidence.
25	6.01	People consider my easy going.
48	5.78	I accomplish much more if I work in an environment where there are standard regulating procedures.
14	5.78	I find that it is best to pool my judgments with my superiors rather than making decisions on my own.
13	5.69	If change related to my task requires extra time on my part, I would expect compensation.
2	5.56	I very seldom use a new idea or product without altering it to meet my needs.
1	5.14	When trying something new, I will usually rely on my own judgments as to how it should work or be used rather than relying on the general instructions.

strative mandate will result in changed behavior. Because of his tenure the IP would probably be effective in subverting the mandated change. In sum, it would appear that one must persuade, entice and continually support the IP if change is desired.

Image #4 The Economic Bureaucrat (EB)

Table 4 presents the marker items of the EB. The image in this factor reflects a very strong concern for monetary aspects of a task. Along with this concern there is an indication that the EB relies on bureaucratic procedures to guide his behavior and maintains a cautious approach to change. More specifically, the EB appears to evaluate change primarily in terms of its monetary cost. Although the EB is similar to the Dynamic Professional Bureaucrat (DPB) in terms of being competitive and enjoying leadership, the image that is reflected in the EB is one of more rigidity in functioning than the DPB.

The EB was found to have basically a null relationship with the construct of Professionalism, possibly indicating the emphasis of organizational rather than professional loyalities. The EB also had a null relationship to Perceived Situational Support for Change, but had a slight positive relationship with Change Orientation. This latter relationship suggests that the EB is somewhat open to change but evaluates the economic feasibility of the change carefully before leaping. The innovation characteristics were not successful in providing any further clarification of the EB's functioning. In fact, the one relationship that was identi-

fied tends to be somewhat contrary to the interpretation. The EB was found to be negatively related to the Additional Resource Requirement factor of innovation characteristics.

A number of demographic relationships were identified as positively related to the EB: (1) a state level position, (2) non affiliation with a school, (3) being male, (4) high income level, (5) high educational level, (6) vocational education as a major area of study, (7) amount of professional travel, (8) total experiences in the profession, and (9) number of job changes. The negatively related demographics were: (1) teacher role, (2) a rural school situation, (3) raised in a rural setting, (4) humanities as a major area of study, and (5) amount of general travel. To recapitulate, it appears that the EB is basically a state department male staff member, trained in vocational education, raised and now working in an urban environment, and has a high salary level which is probably a function of his number of years of professional experience.

The EB and Implications for Educational Change

The EB is securely imbedded in the organizational framework. To reach the EB for purposes of gaining his acceptance to change, one must present the innovation as being monetarily feasible and desireable while at the same time organizationally compatible. The EB will change under these types of informative and persuasive tactics. He is competitive while at the same time being cautious. If the competitive aspect of the innovation is subtly made salient to the EB he would tend to bite. Also if he can see

TABLE 4

RANK ORDERED ITEMS OF FACTORIAL IMAGE #4:

THE ECONOMIC BUREAUCRATIC

Item	Factor Ranked Loadings	Item Content
19	12.91	Education should be run more like a business.
36	6.95	Timing is the most important fact in all decisions I am called upon to make.
47	6.31	The economic efficiency in any practice is as important as the moral implications of the practice.
43	6.47	I find it is always better to rely on research-based evidence rather than on intuition judgement if the research is available.
30	5.01	Even if things are going well, people still try to change them.
48	4.26	I accomplish much more if I work in an environment where there are standard regulating procedures.
5	4.14	Professional tools are necessary to the accomplishment of my task.
8	4.09	Extensive preparation is the key to success in the accomplishment of an important task.
6	4.07	I work well in a competitive atmosphere.
11	3.99	If change related to my task is suggested, my primary concern is how much does it cost.
39	3.96	I am dismayed when I see people using new practices which have no research evidence to support them.
9	3.93	I enjoy working in situations which put me in a position of leadership and responsibility.

the opportunity to gain some leadership opportunities through participation with the change, this will be persuasive also. Generally the EB is looking out for the organization first and himself a close second.

Reliability Findings

Table 5 provides a summary of the alpha coefficients of the scales and subscales in the study. Almost all of the validation scales and subscales obtained a sufficient alpha coefficient. The low alphas on the a priori image scales support the need of the factor analysis approach.

Conclusions, Implications for Educational Change, and Recommendations for Further Study

Conclusions

The findings indicate that generalizable patterns of Professional-Organizational Functioning are empirically identifiable. Four relatively discrete patterns were identified in this study. These patterns were consistent with the framework of the study and the literature which was used as a background. The factors were also found to be differentially related to several criterion variables which have previously been shown to be associated with variance in the acceptance of educational change. Although the study did not use any behavioral criterion

TABLE 5

COEFFICIENT ALPHAS FOR THE VARIOUS STUDY SCALES

	Coefficent Alfa
Ten A Priori Image Scales	
#1	.54
#2	.35
#3	.17
#4	.30
#5	.25
#6	.06
#7	-.05
#8	-.01
#9	.41
#10	.48
Five A Priori Construct Scales	
#1	.17
#2	.47
#3	.58
#4	.61
#5	.55
Perceived Situational Support for Change Scale	.85
Professionalism Inventory	
Sub-Scale #1	.57
Sub-Scale #2	.81
Sub-Scale #3	.76
Sub-Scale #4	.64
Sub-Scale #5	.60
Total Scale	.79
Change Orientation Scale	.92
Total Professional-Organizational Image Inventory	.76

or acceptance, the content of the items and subsequently the factors were such that numerous implications about behavior can be generated. In this sense the study provides a heuristic base for a more definitive analysis of the concepts which are suggested: specifically, the concepts concerning the notion that individuals develop certain patterns of behavior to cope with their roles as professionals and members of organizations; that these patterns are somewhat predictable based on certain observable characteristics; and finally, these patterns indicate certain responses to attempts to cause them to change.

Implications for Educational Change

Although this study is not definitive enough to be extremely confident about any specific implications, it is very suggestive. Advocates of educational innovation and persons interested in understanding the change process have generally either viewed individual characteristics in a unique fashion or overgeneralize relative to certain groups. The methodology and findings of this study may provide the means and some concepts to begin synthesizing some of the key individual differences in reference to some measure of acceptance behavior. Such a synthesis would provide a needed compromise between treating individuals as unique or simply as a group related to some isolated variable. The findings in this study, and the discussions presented after the interpretation of each factor, begin to demonstrate such a synthesis.

The discussions after each factor interpretation (implications for educational change) assumed that such hypothetical individuals (i.e., images) exist and can be identified. Although some demographic and other descriptors are associated with the images, the study did not determine whether actual individuals could be identified as essentially being related to one image over the others. Viewing the images as identifying significant groups of individuals is one possible way of looking at them. If this is so, then advocates of educational change could identify various segments of a given client population according to the images and vary their strategies according to the implied needs and response styles of each image segment.

Another way to look at the images is that they represent dimensions of the construct of Professional-Organizational Functioning for all practitioners. In this case the advocate might alter his strategy relative to the degree a given individual or set of individuals reflect one or more of the four image dimensions.

In general, this study has demonstrated that in any educational change process practitioners will have various patterns of response to change. This implies that they have different but yet somewhat generalizable cognitions, pressures, and motives associated with their behavior. Therefore, it behooves advocates of change, or those attempting to determine factors which relate to consumers' variance in acceptance, to somehow take these generalizable differences into account.

Recommendations for Further Study

As already noted, this study was exploratory and, for this reason, the images identified and the relationships established must be considered tentative. Considerable further analysis and replication should be undertaken before any extensive conclusions can be stated and defended. In the light of these qualifications, some suggestions for further research are given below:

1. Further validation of the factors identified in this study might be undertaken with a larger sample of educational practitioners using the same instrument.

2. A replication of this inquiry might be made using the same instrument with a broad sample of practitioners in other professions who are both professionals and employees in an organization.

3. Further assessment of the present data might be made by:

   a. Regressing the demographics onto the individual factors;

   b. Factor analyzing the total set of items and demographics together; or

   c. Performing other correlational techniques such as canonical correlations.

4. The data relative to the multiple correlations could be used to eliminate insignifcant biographical data from further analyses.

5. Hypothetical behavioral criterion references might be established for each image, and a study performed to validate these relationships.

6. The factors could be refined into sub-scales by using the marker items. If this were done, the validity and reliability presented in this study would be negated and would need to be re-established either with the present data or with a new sample.

7. The factors or sub-scales developed from the factors in this study could be used as measures of the construct of "Professional-Organizational Functioning." A study could then be conducted which would use the measures to build profiles of the individual's responses. These profiles could then be used as variables for further analyses.

8. Items on the present scale might be eliminated or added to in order to determine if there are other images. Possibly, a study could be conducted by starting with another set of parallel and/or additional items.

9. The four images might be validated further through the use of other sociological, social psychological, or psychological constructs.

In conclusion, this study provided empirical evidence as to the existence of a set of constructs described in the literature and concerned with patterns of individual behavior in professional-organizational roles. It has been shown that these patterns of behavior were related to certain attitudinal and demographic characteristics associated with the process of change. Hopefully, this study will be of use for the purposes of (1) clarifying the extent to which an individual's style of behavior affects his approach to change, and (2) better understanding the process of educational change so as to enhance the acceptance of new worthwhile ideas and practices.

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APPENDIX A

CORRELATIONS OF POI FACTORS WITH CONSTRUCT SCALES[a]

POII Factors		Construct Scales PI-I	PI-II	PI-III	PI-IV	PI-V	PI-TOTAL	PSSC	CC
1		(+)	(+)	(0)	(+)	(0)	(+)	(+)	(+)
DPB	r=	.31**	.24**	.25**	.06	.19*	.39**	.43**	.33**
	b=	.34**	.26**	.24**	.05	.19**	.40**	.47**	.26**
2		(+)	(0)	(+)	(0)	(+)	(+)	(0)	(+)
AC	r=	-.09	.02	-.09	-.12	.25**	-.02	-.06	.21*
	b=	-.17**	-.04	-.14*	-.13*	.20**	-.11	-.18**	.15*
3		(-)	(-)	(0)	(-)	(-)	(-)	(-)	(-)
IP	r=	.13	.04	.24**	.17	-.16	.16	.13	.18*
	b=	.04	-.03	.17**	.15*	-.21**	.05	.01	.11
4		(0)	(0)	(0)	(0)	(-)	(0)	(+)	(-)
EB	r=	.14	-.08	.03	.17	.02	.09	.00	.16
	b=	.14	-.08	.04	.17*	-.03	.07	.00	.16**
	R=	.37**	.26**	.34**	.27**	.35**	.42**	.46**	.41**

[a] PI - Professionalism Inventory (The I-V refer to the subscales)
PSSC - Perceived Situational Support for Change
CO - Change Orientation

[b] The +, -, or 0 in the parentheses ( ) represents the hypothesized relationships presented in the assessment design

* $p < .05$
** $p < .01$
r = Product moment correlation coefficient
b = Standardized regression coefficient
R = Multiple correlation coefficient

APPENDIX B

CORRELATIONS OF CLIENT IMAGES WITH INNOVATION DIMENSIONS

Client Images	Student Concern	Resources Required	Organized Resistance	Consumer Rating	Credibility	Implementation	R
Professional Bureaucrat							
r=	.12	-.06	.11	.03	.06	.06	.31**
b_{yx}=	.38**	.05	.32**	.16*	.09	.12	
b_{xy}=	.04	-.03	.13	.11	.09	.10	
Adapter Creator							
r=	.37**	-.22**	-.13	-.35**	-.05	-.15	.49**
b_{yx}=	.17*	-.18**	-.05	-.30**	.04	-.13*	
b_{xy}=	.36**	-.22**	-.16*	-.38*	-.07	-.18**	
Impoverished Practitioner							
r=	-.03	.07	.11	.08	-.02	.02	.20
b_{yx}=	.17	.12	.21**	.15*	-.00	.05	
b_{xy}=	-.04	.08	.08	.05	-.05	-.00	
Economic Bureaucrat							
r=	.05	-.17	.05	-.01	-.07	.01	.19
b_{yx}=	.04	-.16*	.06	.00	-.07	.01	
b_{xy}=	.05	-.17*	.05	-.01	-.07	.01	
R=	.37**	.29**	.21*	.38**	.12	.18	

r = Product moment correlation coefficient

b = Standardized regression coefficient

R = Multiple regression coefficient

x = Client Images

y = Innovation dimensions

* = Significant at the .05 level

** = Significant at the .01 level

APPENDIX C

CORRELATIONS OF POF FACTORS WITH CONCURRENT SITUATIONS[a]

POII Factors	Primary Role							Situation			
	T	P	CA	SDVTES	TE	SBM	SAC	NA	R	S	U
1-DPB	(+)[b]	(+)	(+)	(+)	(+)	(+)	(+)	(0)	(0)	(0)	(0)
r=	-.19*	.04	.08	.08	-.01	.00	.08	.09	-.06	-.13	.08
b=	-.16*	.05	.08	.05	-.07	.04	.10	.05	.01	-.13	.06
2-AC	(+)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
r=	.02	-.08	-.03	.01	.17	-.08	-.06	.07	-.19*	-.04	.15
b=	.06	-.10	-.05	.01	.19**	-.09	-.08	.06	-.19**	-.00	.13*
3-IP	(+)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
r=	-.20*	.06	.05	.14	.02	-.03	.05	.12	-.08	-.03	-.03
b=	-.16**	-.04	.02	.13*	.04	-.04	.02	.11	-.08	.01	-.05
4-EB	(0)	(+)	(+)	(+)	(0)	(+)	(+)	(0)	(0)	(0)	(0)
r=	-.35**	-.17	.10	.35**	.09	.10	.11	.39**	-.32**	-.10	-.03
b=	-.35**	-.17*	.10	.35**	.09	.10	.11	.39**	-.32**	-.10	-.03
R=	.43**	.20*	.14	.38**	.21*	.14	.16	.42**	.38**	.16	.17

[a]
T - Teacher
P - Principal
CA - Central Administrator
SDVTES - State Department of Vocational and Technical Education Staff
TE - Teacher Educator
SBM - State Board Member
SAC - State Advisory Council
NA - Not affiliated with a school
R - Rural School
S - Suburban School
U - Urban School

[b]
The + or 0 in the parentheses ( ) represents the hypothesized relationships presented in the assessment design section.

* $p < .05$
** $p < .01$
r = Product moment correlation coefficient
b = Standardized regression coefficient
R = Multiple correlation coefficient

CORRELATIONS OF POF FACTORS WITH

BIOGRAPHICAL DEMOGRAPHICS

	POII Factors								
	1-DFB		2-AC		3-IP		4-EB		
	r[a]	b	r	b	r	b	r	b	R
	.09	.07	-.06	-.08	.16	.14*	.11	.11	.23*
	.17	.18**	.03	-.02	.04	-.00	-.23**	-.23**	.29**
	.02	.00	.06	.05	.03	.03	-.06	-.06	.09
	-.04	.00	-.13	-.13*	-.04	-.04	.08	.08	.16
	-.00	-.04	.18*	.19**	-.06	-.05	-.08	-.08	.21*
	.06	.04	.00	-.01	.12	.11	.04	.04	.13
Child	.06	.06	.07	.06	-.04	-.05	.02	.02	.10
Child	.01	.02	-.03	-.03	-.02	.03	.02	.02	.05
Child	-.05	-.05	-.10	-.08	.05	.06	-.04	.04	.12
	-.01	-.04	.11	.12	-.04	.03	.11	.11	.17
	-.06	-.04	.02	-.01	-.09	-.08	-.06	-.06	.12
	.06	.03	.09	.08	.02	.01	.09	.09	.14
	-.10	.02	-.16	-.16*	.07	.06	-.13	-.13*	.22*
	.14	.11	.04	.01	.13	.10	.28**	.28**	.32**
tional level	.18	.13*	.14	.10	.10	.07	.25**	.26**	.33**
Studied	.03	.05	-.08	-.09	.02	.01	-.06	-.06	.11
Ed.	.07	-.08	-.01	-.02	.03	.01	.22**	.22**	.23**
	-.03	-.04	.13	.14*	-.10	-.09	-.14	-.14*	.22*
Science	-.15	-.17**	.01	.05	-.02	.02	-.12	-.12	.20*
	.05	.10	-.06	-.09	-.06	-.09	.07	.07	.15
	-.03	-.07	.09	.11	.04	.06	-.02	-.02	.12
Travel	.04	-.00	.08	.03	.09	.09	.27**	.27**	.30**
	.05	.03	.20*	.19*	-.10	-.11	-.14	-.14*	.27**
at	.04	.03	.02	.01	.02	.01	.07	.07	.08
in	.12	.07	-.00	-.02	.21*	.19*	.16	.16*	.27**
Changes	.01	-.01	.14	.14*	.11	.11	.15	.15*	.23*
School	.10	.12	.01	-.02	-.03	-.06	.12	.12	.16
	.06	.05	.03	.02	.02	.01	.03	.03	.07

[a] moment correlation coefficient
d regression coefficient
correlations coefficient

* $p < .05$
** $p < .01$